ACCESSION NR: AT4042698

the subjects declined by 6--17% during the first month and by 34--36% during the second month. This was accompanied by a somewhat less marked decline in CO_2 production. At the same time, the respiratory coefficient rose from 0.75--0.82 to 0.97--1.1. The amount of heat given off by the organism of the subjects dropped during the first month by 7.5--14% and for the second month by 28--34.5%. The respiratory minute-volume decreased during the first month of the experiment on the average of 5--10% and during the second month by 9.5--25%. Prolonged stay in the chamber with lowered barometric pressure caused an increase in the heart rate by 8--10 beats (20%) and a lowering of the systolic pressure by 10--16% and of the diastolic pressure by 7--8%. The EKG performed during the course of this experiment did not show any substantial changes. There was, however, some reduction in the maximum values of the P and R peaks. A study of the peripheral blood indicated that hematological changes observed in the subjects during the course of the experiment were very insignificant. The changes in gas dynamics which were observed were strictly reversible. Respiratory indices of the two subjects returned to normal levels 8--10 days after the completion of the experiment.

ASSOCIATION: none

Card 2/3

ACCESSION NR: AP4002548 S/0247/63/013/006/0953/0962

AUTHOR: Agadzhanyan, N. A.; Bizin, Yu. P.; Doronin, G. P.; Kuznetsov, A. G.

TITLE: Changes in higher nervous activity and in some vegetative reactions during a prolonged stay in relative adynamia and isolation

SOURCE: Zhurnal vysshey nervnoy deyatel'nosti, v. 13, no. 6, 1963, 953-962

TOPIC TAGS: higher nervous activity, vegetative nervous system, adynamia, adynamia effect, isolation, isolation effect, nervous activity, central nervous system, afferent impulse, confined environment

ABSTRACT: Two human subjects were studied in a specially equipped SBK-48 pressure chamber under conditions of relative adynamia and isolation for a period of 60 days. Conditioned reflex reactions were recorded by a multichannel oscillograph. Electromyogram, ECG, EEG, respiratory rate, and blood pressure were used as indices of physiological reactions. Work capacity of the subjects was determined by their reaction to light signals, ability to solve mental problems,

Card 1/2

ACCESSION NR: AP4002548

and coordination of movement. It was found that conditioned reflex activity is characterized by waves and phases during the various periods of investigation. A subject's ability to coordinate difficult movement does not change, but his speed of movement is distinctly lower. Fatigue and emotional instability appear between the 10th and 16th days and work capacity is reduced. Heart rate increases, and respiratory rate and blood pressure decrease. After a physical load, physiological reactions are restored much later in the second half of the experiment. Changes in vegetative and motor reactions appear to be caused by protective blocking of the central nervous system and by its reduced excitability. To compensate for the unfavorable conditions of hypodynamia and isolation, a special program of physical exercises should be developed to ensure increased work capacity. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 20Apr63	DATE ACQ: 07Jan64	ENCL: 00
SUB CODE: AM	NO REF SOV: 011	OTHER: 000

Card 2/2

KUZNETSOV, A. B.; AGADZHANYAN, N. A.; DIANOV, A. G.; ZHAROV, B. G.

"Effect on the body of prolonged exposure to conditions of artificial atmosphere."

report presented at the 15th Intl Astronautical cong, Warsaw, 7-12 Sep 64.

AGADZHANYAN, N.A.; BIZIN, Yu.P.; DORONIN, G.P.; IL'IN, Ye.A.; KUZNETSOV, A.G.; YEZEPCHUK, N.I.

Effect of the human organism of a prolonged stay in a closed chamber of small size. Probl. kosm. biol. 4:31-43 '65. (MIRA 18:9)

AGAIZHANYAN, N.A.; ZHAROV, S.G.; KALINICHENKO, I.R.; KARPOVA, L.I.; KAPLAN, Ye.Ya.; KUZNETSOV, A.G.; OSIPOVA, M.M.; MAZIN, A.N.; SERGIYENKO, A.V.

Effect of various rates of decompression on the human body. Voen. med. zhur. no.10:49-53 O '65. (MIRA 18:11)

L 58858-65 EWG(a)-2/EWG(c)/EWG(j)/EWG(r)/EWG(v)/EWT(l)/FS(v)-3 DD

ACCESSION NR: AP5015946 UR/0204/65/015/003/0438/0444

612.014.464+612.275 :

616-001.11+612.833.81

AUTHOR: Agadzhanyan, N. A. (Moscow); [illegible]; Voronin, G. F. (Moscow); Kuznetsov, A. G. (Moscow); [illegible]

TITLE: Effect on animals of [illegible] at low barometric pressure

SOURCE: Zhurnal vysshey nervnoy deyatel'nosti, v. 15, no. 3, 1965, 438-444

TOPIC TAGS: low pressure chamber, barometric pressure, respiration, water metabolism, salt metabolism, central nervous system

ABSTRACT: Central nervous system function and some indices of water and salt metabolism were studied in dogs subjected to low pressure corresponding to an altitude of 10,000 m (198 mm Hg) during a prolonged stay (about 100 days) in an atmosphere of pure oxygen. No significant changes were detected in the animals. Firmly established chain motor conditioned reflexes were not impaired. They completely retained their structure and the temporary characteristics of the individual links.

Card 1/2

L 58858-65

ACCESSION NR: AP5015946

The first part of the experiment was marked [illegible] internal inhibition, which was reflected [illegible]

4 figures.

ASSOCIATION: none

SUBMITTED: 27May64 ENCL: 00 SUB CODE: LS

NO REF SOV: 007 OTHER: 002

Card 2/2

L 58383-65 EWG(j)/EWG(r)/EWT(l)/FS(v)-3/EWG(v)/EWG(a)-2/EWG(c) DD
ACCESSION NR: AP5017394

AUTHOR: Agadzhanyan, N. A. (Moscow ; Kalinichenko, L. P. Moscow)

TITLE: Peculiarities of gas-exchange studies under rarefied atmospheric conditions

SOURCE: Fiziologicheskiy zhurnal SSSR, [illegible]

TOPIC TAGS: respiration, hypoxia, [illegible] atmosphere, gas exchange, rarefied atmosphere

ABSTRACT: In order to avoid errors in analyzing factual material obtained during experiments in a rarefied atmosphere, it is necessary to take into account the special features in calculating gas-exchange indices for both men and animals. To determine the amount of oxygen consumed and carbon dioxide respired, values of the per-minute volume of respiration must be reduced to standard conditions (dry state, [illegible] mm Hg. Tables of the coefficients for reducing gas volumes to standard conditions were calculated according to a formula used in another source. Reduction of gas volume in a rarefied atmosphere to standard conditions primarily [illegible] to the drop in pressure. Gas-exchange studies were conducted in the laboratory

Card 1/3

L 58383-65
ACCESSION NR: AP5017394

(760 mm Hg) and in a pressure chamber (7000 m) to determine the amount of oxygen absorbed and carbon dioxide respired. It is generally considered that rarefaction alone doesn't influence the magnitude [illegible] respired [illegible]. Thus, the partial [illegible] and CO_2 pressures [illegible] altitude [illegible] approximately the same as on earth. It was shown [illegible] alve[illegible] venous blood during breathing [illegible] m is the same [illegible] mm Hg [illegible] partial CO_2 pressure changes [illegible] pressure [illegible] with [illegible] the gas [illegible] partial pressure in [illegible] air at [illegible] organism [illegible] composition of oxygen and carbon dioxide in respired air will increase. In order to guarantee a normal oxygen supply to the organism, it is necessary to know how to calculate the percentage of oxygen in a closed cabin. Formulas for such determinations are suggested. Knowledge of the principles of gas exchange will be of immense value in designing high-altitude equipment and constructing artificial atmospheres in closed capsules. Orig. art. has: 2 tables and 1 figure. [JS]

ASSOCIATION: none

Card 2/3

L 58383-65
ACCESSION NR: AP5017394

SUBMITTED: 29Dec63 ENCL: 00 SUB CODE: LS

NO REF SOV: 008 OTHER: 002 ATD PRESS: 4046

Card 3/3

L 22929-66 EWT(1) SCTB DD

ACC NR: AP6013167 SOURCE CODE: UR/0177/66/000/004/0059/0063

AUTHOR: Agadzhanyan, N. A. (Lieutenant colonel in medical service, Candidate of medical sciences); Sergiyenko, A. V. (Major in medical service)

ORG: none

TITLE: Character of changes in altitude as a function of decompression rate

SOURCE: Voyenno-meditsinskiy zhurnal, no. 4, 1966, 59-63

TOPIC TAGS: hypoxia, animal physiology, pressure chamber, decompression, high altitude physiology

ABSTRACT: The authors summarize Western and Soviet Literature dealing with changes in resistance to high altitude as a function of decompression rate, and describe 146 specialized experiments of their own, conducted on white rats weighing 170—230 g. A 40-liter decompression chamber was used to expose the animals to decompression rates of 0.1, 2.0, 25, 75, 150, and 350 m/sec. In determining the maximum altitude endurance limits, cardiovascular and respiratory function as well as behavior of the animals was studied. In a few cases, blood morphology, conditioned reflexes, and rectal temperature were monitored.

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Tests were terminated when convulsions occurred. Some results of the experiment are shown in Table 1.

Table 1. Altitude stability as a function of decompression rate.

Decompression rate in m/sec	No. of tests	No. of animals killed	Altitude limit in m			Reserve time		
			min.	max.	mean	minimum	maximum	mean
2	26	2	11 700	14 700	13 370	105 min. 35 sec.	131 min. 42 sec.	121 min. 32 sec.
25	30	6	13 050	14 325	13 618	8 » 42 »	9 » 33 »	9 » 8 »
75	22	6	14 150	16 750	16 088	3 » 8 »	3 » 51 »	3 » 32 »
150	38	12	17 050	18 900	18 286	115 »	130 »	123 »
300	30	1	20 000	22 300	21 495	67 »	76 »	72 »

It was found that convulsion characteristics depended on decompression rate: the faster the decompression rate, the more pronounced the convulsion. No dependence was observed between the characteristics of cardiovascular function and decompression rate. Maximum respiratory activity at decompression values of 75—300 m/sec was reached at an altitude of 4000 m; at values of 2—25 m/sec, it was reached at 10,000 m. Depressed respiratory activity as a function of decompression rate occurred at 11,000—14,000 m. Rectal temperature decreased by an average of 8.1C at a rate of 2 m/sec and by 0.9C at 25 m/sec; at

L 22929-66

ACC NR: AP6013167

75—300 m/sec, no change occurred. Apparently a slow decompression rate induced a state of natural hypothermia. Pressure chamber tests in which the ambient temperature was raised from 21C to 30C revealed that at a temperature of 21C and a decompression rate of 2 m/sec, the altitude limit was 13,370 m, while at a temperature of 30C at the same rate, the limit was 10,221 m. Thus, the experiments revealed an interdependence of changes in altitude stability, decompression rate, and ambient temperature. The conclusion reached was that the mechanisms of adaptation to hypoxia are as yet poorly understood, despite their great importance to aeronautics and astronautics. Orig. art. has: 3 tables.

[CD]

SUB CODE: 05, 06/ SUBM DATE: none/ ATD PRESS: 4237

Card 3/3

ACC NR: AT6036616 SOURCE CODE: UR/0000/66/000/000/0300/0302

AUTHOR: Parin, V. V.; Agadzhanyan, N. A.; Kuznetsov, A. G.; Barer, A. S.; Isabayeva, V. A.; Mirrakhimov, M. M.; Davydov, G. A.; Kalinichenko, I. R.; Korobova, A. A.; Karpova, L. I.; Nikulina, G. A.; Tikhomirov, Ye. P.; Sokol, Ye. A.; Gavrilov, B. A.

ORG: none

TITLE: Establishing the possibility of using alpine acclimatization for the preparation and training of cosmonauts [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 300-302

TOPIC TAGS: hypoxia, high altitude physiology, alpine acclimatization, cosmonaut training

ABSTRACT:

Tasks of the present study were to:

1. Conduct complex physiological and clinical investigations during the process of acclimatization at altitudes of 3300 to 4100 m.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100420018-5"

ACC NR: AT6036616

2. Study the influence of alpine acclimatization on human tolerance to extremal spaceflight factors.

3. Study the comparative resistance of alpine inhabitants, valley inhabitants, and alpinists to extremal factors.

4. Develop a system of alpine acclimatization for cosmonauts and issue recommendations on the application of alpine acclimatization for the preparation and training of cosmonauts and on the creation of alpine camps for cosmonauts.

Acclimatization was conducted at the alpine station of the Kirgiz State Medical Institute (Tuya-Ashu mountain pass, altitude, 3300 to 4100 m). A total of 28 male subjects were studied of whom: 11 were indigenous to alpine conditions as farmers of the Tien-Shan--Pamir region (2000 to 2500 m), 11 were valley inhabitants, and 6 were accomplished alpinists. The following indices were studied under alpine conditions and using test stands: Functional condition of the central nervous system; external respiratory and cardiovascular system function; some biochemical indices; the state of the blood coagulation and anticoagulation capacity; and in separate experiments; cerebral circulation using an electroplethysmographic method.

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The experiments showed that after 45 days of alpine acclimatization, human tolerance to prolonged, back-chest accelerations (8 to 10 G) was improved. This was reflected in a relative increase in the amplitude of rheoencephalograms for all subjects and consequently, improved cerebral circulation and lowered pulse rate. EKG changes indicated that the heart was undergoing less strain after alpine acclimatization. After residence in alpine conditions, a decrease in basic metabolic indices and a slight increase in arterial blood oxygen saturation was noted in alpine inhabitants during accelerations.

A study of heat tolerance showed that there was a drop in basic physiological parameters (heat accumulation and basal metabolism) after alpine acclimatization in all three groups. These changes were more pronounced in indigenous alpine inhabitants and less pronounced in alpinists.

The resistance of the organism to hypoxia before and after acclimatization was studied using two approaches; exposure to a certain "altitude ceiling" in a pressure chamber and a method of reverse respiration using a spirograph first filled with atmospheric air. In the latter case as a measure of oxygen consumption, oxygen content under the bell jar of the spirograph decreased and exhaled carbon dioxide was chemically absorbed.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100420018-5"

L 08271-67 - EWT(1) SCTB DD/GD

ACC NR: AT6036466 SOURCE CODE: UR/0000/66/000/000/0010/0011

AUTHOR: Agadzhanyan, N.A.; Kalinichenko, I. R.; Kuznetsov, A. G.; Lepikhova, I. I.; Nikulina, G. A.; Osipova, N. M.; Reutova, M. B.; Sergiyenko, A. V.; Shevchenko, Yu.V.

ORG: none

23
B+1

TITLE: Effect of rapidly increasing hypoxia on the human organism [Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 10-11

TOPIC TAGS: hypoxia, spirography, electrocardiogram, human physiology

ABSTRACT:

In order to determine the time available for taking countermeasures during a rapid drop in partial oxygen pressure, the resistance of the body to rapidly increasing hypoxia was studied in 28 human subjects by the rebreathing method using a spirograph filled at the start with 8.5 *l* of atmospheric air. The O_2 content of this air decreased as the oxygen was used up; CO_2 was chemically absorbed.

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ACC NR: AT6036466

The external appearance of the subjects, their behavior, and reported subjective sensations were monitored as a check on their general condition; data were recorded on conditioned reflex activity, brain biocurrents, motor coordination, the functional state of the cardiovascular and respiratory systems and blood oxygen absorption levels; and studies of the composition of peripheral blood and the functional state of the adrenal cortex were made.

The results showed that rapidly increasing hypoxia produces functional changes leading to loss of consciousness if oxygen is not quickly administered. Reserve time (time from beginning to breathe the hypoxic mixture until the hypoxic mixture is cut off) amounted on the average to 6 min 28 sec (5 min 27 sec to 10 min 02 sec). This was equivalent to an "altitude ceiling" of 10150 m (9100 to 11400 m). The O_2 content in the respired air at the end of the experiment was 4.44% (pO_2 = 31.3 mm Hg); blood oxygen saturation dropped to an average of 53.2% (42% to 64%). Hypoxia symptoms observed during the experiment included: cyanosis of the epidermis and mucosa; dyspnea, drowsiness, impaired handwriting, and sometimes even muscle spasms in the hands. Many subjects complained of respiratory distress, dizziness, dimness of vision, heat, headache, etc.

Card 2/3

L 6927-67

ACC NR: AT6036466

The latent period in time required to solve arithmetical problems increased and motor coordination was impaired. Both the time required to solve problems and the number of errors increased more than three-fold over initial data.

Three phases were distinguished in EEG changes: 1) suppression of the alpha rythm; 2) reactivation of alpha rhythm; 3) onset of slow waves (2 to 4 per inch).

Frequency and depth of respiration and minute volume increased during hypoxia, and the oxygen requirement and O_2 utilization coefficient decreased. Arterial oxygen saturation decreased from 46% to 98% at the start to 49% to 55% at the end of the experiment.

EKGs made during rapidly increasing hypoxia showed a progressive increase in the pulse rate and a decrease in the amplitude of R and T waves.

Peripheral blood composition immediately and one hour after exposure to hypoxia showed increased erythrocyte counts and hemogolobin content. The amount of 17-oxycorticosteroids in the plasma increased from 16 to 17 γ% at the onset of 35.3 to 44.2 γ % during the aftereffect period.

W.A. No. 22; ATD Report 66-1167

Card 3/3 SUB CODE: 06 / SUBM DATE: 00May66

ACCESSION NR: AP4041653 S/0146/64/007/003/0082/0086

AUTHOR: Muravenko, O. A.; Agadzhanyan, S. O.

TITLE: High-pressure-difference sensor

SOURCE: IVUZ. Priborostroyeniye, v. 7, no. 3, 1964, 82-86

TOPIC TAGS: sensor, pressure sensor, high pressure sensor, high pressure difference sensor

ABSTRACT: A pressure-difference sensor for measuring within ranges of 10—40 and 80—220 atm is described; the permissible one-side pressure is 250 atm. The output signal, proportional to the absolute value of the pressure difference, lies within 0.2—1.0 atm (standard instrument range). The possible accuracy class is 2.5. The sensor permits adjusting its amplification factor and has provision for zero suppression. Two measurand pressures are applied to two calibrated Bourdon tubes (see Enclosure 1). Fastener 1 carries shutter assembly 4; the

Card 1/3

ACCESSION NR: AP4041653

shutter is pressed by spring 5 and screw 6. A supply pressure of 1.2—1.4 atm is applied, via a throttle, to a chamber that comprises two diaphragms having different effective areas. Upon application of the input pressure, the shutter moves and the pressure in the chamber varies. As the effective areas are different, a rigid center carrying nozzle 7 also moves. By the end of a full working stroke, the nozzle-shutter gap vanishes and the chamber pressure attains its maximum value (adjusted by screw 8). Other details are given. Orig. art. has: 1 figure and 8 formulas.

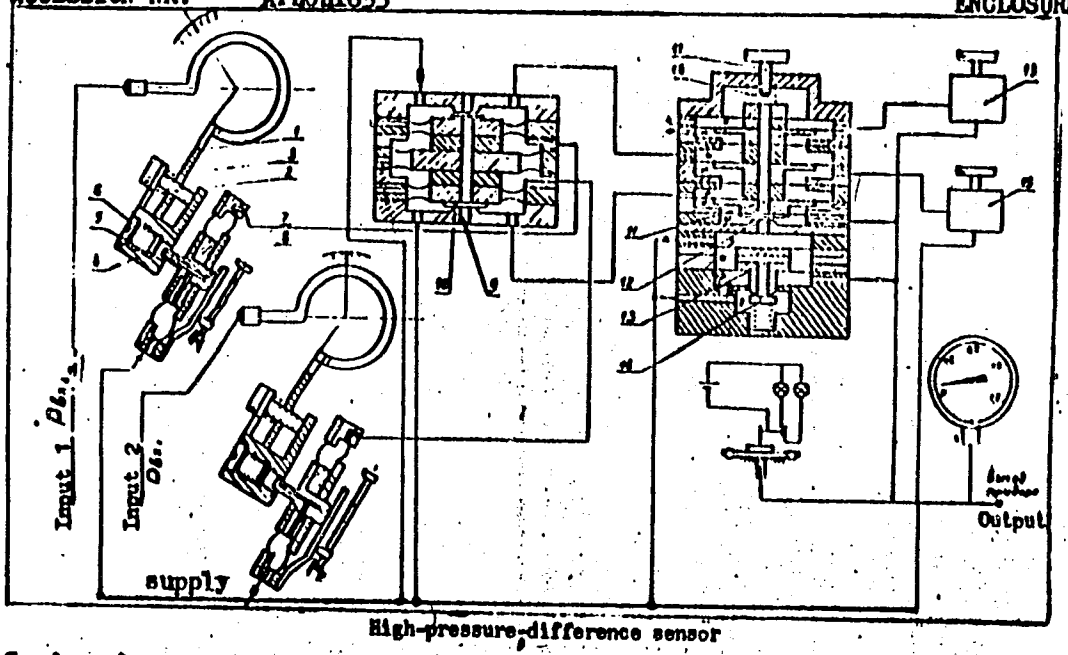
ASSOCIATION: Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promy*shlennosti (Moscow Technological Institute of Meat and Dairy Industry)

SUBMITTED: 11Dec62 ENCL: 01

SUB CODE: IE NO REF SOV: 000 OTHER: 000

Card 2/3

ACCESSION NR: AP1011653 ENCLOSURE: 01



High-pressure-difference sensor

Card 3/3

AGADZHANYAN, S.G.

Investigating the relationship between the parameters of a pneumatic three-membrane relay and its dynamic precision. Trudy Inst. mash., STMP no. 19:41-50 '65 (MIRA 19:1)

Experimental investigation of static and dynamic indices of the USEPPA elements. Ibid.:51-66.

ACC NR: AP7004769 SOURCE CODE: UR/0413/67/000/001/0084/0085

INVENTOR: Agadzhanyan, S.G.; Golovin, V.V.; Golovina, L.I.; Malyarov, G.F.

ORG: none

TITLE: Pneumatic trigger with separate inputs. Class 42, No. 190057

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 84-85

TOPIC TAGS: pneumatic control, trigger cirucit

ABSTRACT:

An Author Certificate has been issued for a pneumatic trigger with separate inputs (see Fig. 1). To reduce dimensions and to increase speed of response, a spring-tensioned diaphragm with a rigidly fastened flapper forms

Card 1/2 UDC: 681.142.07-525:621.374.3

Agadzhanyan, Ts. Ye

VARDANYAN, S.A.; AGADZHANYAN, TS.Ye.

Synthesis of levulinic acid ester from 1,3- dichloro -2- butene.
Izv. AN Arm. SSR. Ser. khim. nauk v.10 no.5:341-345 '57. (MIRA 11:1)

1. Khimicheskiy institut AN ArmSSR.
(Levulinic acid) (Butene)

SHEMYAKIN, M.M., akademik; AGADZHANYAN, TS.Ye.; MAYMIND, V.I.; KUDRYAVTSEV, R.V.; KURSANOV, D.N.

Study of the isomerizations of azoxy compounds by means of O^{18}. Dokl. AN SSSR 135 no.2:346-349 N '60. (MIRA 13:11)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR i Institut elementoorganicheskikh soyedineniy AN SSSR. 2. Chlen-korrespondent AN SSSR (for Kursanov).
(Oxygen--Isotopes) (Azoxy compounds)

AGADZHANYAN, TS. YE.

Dissertation defended for the degree of Candidate of Chemical Sciences at the Institute of Chemistry of Natural Products in 1962:

"Study of the Isomerization of Azoxy-Compounds Using O^{18}."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

SHEMYAKIN, M.M.; AGADZHANYAN, TS.Ye.; MAYMIND, V.I.; KUDRYAVTSEV, R.V.

Mechanism of para- and ortho-rearrangements of substituted azoxy compounds. Izv. AN SSSR. Ser.khim. no.7:1339-1342 Jl '63. (MIRA 16:9)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Rearrangements (Chemistry)) (Azoxy compounds)

ANTONOV, V.K.; AGADZHANYAN, TS.Ye.; TELESNINA, T.R.; SHEMYAKIN, M.M.

Activation of an amide group by activation. Part 5: Inclusion of amino acid radicals into linear and cyclic peptides. Zhur. ob.khim. 35 no.12:2231-2238 D '65. (MIRA 19:1)

1. Institut khimii prirodnykh soyedineniy AN SSSR. Submitted December 23, 1964.

AGADZHANYAN, Ye.I.

Chemical characteristics of calcium-chloride waters of the productive formation of the Duvannyy field. Izv. vys. ucheb. zav.; i neft' i gaz 6 no.8:15-17 '63. (MIRA 17:6)

1. Azerbaydzhanskiy institut nefti i khimii imeni Azizbekova.

AGADZHANYAN, Ye.I.

Reservoir waters of the lower part of a sector of a producing formation in the Buvannyy oil field. Izv. vys. ucheb. zav.; neft' i gaz 7 no.8:13-16 '64.

(MIRA 17:10)

1. Azerbaydzhanskiy institut nefti i khimii imeni Azizbekova.

AGAFEYEV, N.I.; BALATOV, P.S.; ZVEREV, B.P.; IVANOV, I.A.; KRUGLYY, S.M.; NIMYY, I.M.; FLEYSHMAN, V.G.; KHAIN, V.A.; SHUR, V.A.; EL'SKIY, V.N.

Condensation of a solution in vacuum evaporator installations. Prom.energ. 15 no.4:15-16 Ap '60. (MIRA 13:6)
(Evaporating appliances)

LYAPKIN, A.V., inzh.; AGAF'IN, V.I., inzh. (Dnepropetrovsk).

Using water heaters in steam locomotives on the Stalinsk railroad.
Zhel. dor. transp. 40 no.2:77 F '58. (MIRA 11:3)

1. Sluzhba lokomotivnogo khozyaystva Stalinskoy dorogi (for Lyapkin).
2. Dorozhnaya khimiko-tekhnicheskaya laboratoriya Stalinskoy dorogi.
(Locomotives)

S/194/62/000/012/009/101
D201/D308

AUTHOR: Agafiţei, Anton

TITLE: Thin ferromagnetic films for bistable components

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1962, 45, abstract 12-1-89 ye (Comun. Acad. RPR, v. 11, no. 11, 1961, 1287-1289 (Rum.; summaries in Rus. and Fr.))

TEXT: A thin permalloy film was deposited on the external surface of a glass cylinder by vaporization in vacuo. The vacuum was kept at 5×10^{-5} mm Hg, but during vaporization it was slightly lower. The glass cylinder was rotated at a speed of 150 rpm and 2000 revolutions of the cylinder were needed to obtain a film 2000 Å thick. The thickness of the film was checked by simultaneous deposition of the film on to a flat washer and by measuring this film with an interferometer. Work is being conducted on depositing magnetic films in the presence of a magnetic field. 6 references. [Abstracter's note: Complete translation.]

Card 1/1

DRAGANESCU, V.; AGAFITEI, A.; COMANICIU, N.; NITOIU, A.

Recording spectrophotometer with the Fabry-Perot standard.
Studii cerc fiz 16 no.7:773-778 '64

1. Institute of Nuclear Physics, P.O. Box 35, Bucharest.

AGAFONOVA, G.S.; LYUKSEMBURG, M.S.; MASHKINA, V.I.

Setting of standards for the acceptance test of dry cured hides. Nauch.-issl. trudy TSNIKP no.32:16-22 '60. (MIRA 15:12)
(Hides and skins—Standards)

AGAFONIKOVA, M.I., assistent

Complications and functional changes during bronchoscopy in pulmonary tuberculosis. Probl.tub. 37 no.5:54-59 '59.
(MIRA 12:10)

1. Iz kafedry tuberkuleza (zav. - prof.A.Ye.Rabukhin, nauchnyy rukovoditel' raboty - prof.A.N.Voznesenskiy) TSentral'nogo instituta usovershenstvovaniya vrachey na baze 3-y zagorodnoy tuberkuleznoy bol'nitsy "Zakhar'ino" (glavnyy vrach V.P.Petrik).
(BRONCHOSCOPY - complications)
(TUBERCULOSIS, PULMONARY - complications)

AGAFONKIN, B.M., vetvrach.

Mosin novocaine block for horses. Veterinariia 35 no.4:67-68 Ap '58.
(MIRA 11:3)

1. Gorodskaya veterinarnaya poliklinika g. Miassa, Chelyabinskoy oblasti.

(Novocaine) (Veterinary surgery)

ACC NR: AR6034631 (N) SOURCE CODE: UR/0270/66/000/008/0020/0021

AUTHOR: Agafonnikov, A. M.

TITLE: Use of the "Poisk" radio geodetic system in offshore geophysical surveys

SOURCE: Ref. zh. Geodeziya, Abs. 8.52.165

REF SOURCE: Inform. sb. Tsentr. n.-i. in-morsk. flota. no. 32(143), 1965, 59-64

TOPIC TAGS: geodesy, geodetic survey, radio geodesy, oceanographic survey, offshore survey, survey system, surveying, hydrographic survey/Poisk radio geodetic system

ABSTRACT: Tests of the "Poisk" radio geodetic system in the Baltic, Black, Caspian, and other seas, and off Cuba and India, showed that during daylight hours the optimum size for the base is 140—180 km. The accuracy of the system on the average is 0.01—0.03 of a phase cycle, with high interference shielding of phase soundings. The development of two variants of the system are recommended: one for short-range operation at distances up to 200 km, and one for long-range opera-

Card 1/2 UDC: 621.396.962.1:550.

ACC. NR: AR6034631

tion at distances up to 500 km, at an antenna power of 10—15 and 200 w respectively. A bibliography of 9 titles is included. [Translation of abstract]

SUB CODE: 08/

Card 2/2

L 09371-67 EWT(1) IJP(c) AT
ACC NR: AP6023409 SOURCE CODE: UR/0139/66/000/003/0029/0034

AUTHOR: Gaman, V. I.; Kalygina, V. M.; Agafonnikov, V. F. 48 B

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetsov (Sibirskiy fiziko-tekhnicheskiy institut)

TITLE: Determination of the effective lifetime of minority carriers from the plot of voltage buildup across a p-n junction

SOURCE: IVUZ. Fizika, no. 3, 1966, 29-34

TOPIC TAGS: minority carrier, carrier lifetime, pn junction, electron recombination, junction diode, temperature dependence

ABSTRACT: This is a continuation of an earlier analysis (Izv. vuzov SSSR, Fizika, no. 1, 1965) of the transient arising in the voltage across a p-n junction in response to a jumplike change in current. The present article is aimed at determining the rate of surface recombination at the diode base and the recombination rate on the non-rectifying contact by measuring the time development of this transient. The tests were made on a batch of diodes with thick and thin bases and with non-rectifying contact of small and large area. The diameters of the rectifying contacts for the diodes with thick base were of the order of the diffusion length of the initial germanium (1.3 - 1.6 mm). The n-germanium diodes were produced by a standard procedure. The apparatus for the measurement consisted of a square-wave generator to apply the signal and a pulsed voltmeter (with or without amplifier). The time dependence of the volt-

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L 09371-67
ACC NR: AP6023409 O

age was plotted by using pulses of different duration (from tenths of a microsecond to hundreds of microseconds) and measuring the corresponding voltage drop. The same apparatus was also used to determine the temperature dependence of the effective lifetime of the carriers in the diode base. The procedure was essentially based on the transient produced when the diode is switched over from the neutral into the conducting state by a current pulse. Tables of corresponding recombination rates and carrier lifetimes and a plot of the temperature dependence of the effective lifetime are presented. The results are close to those obtained earlier by others. Orig. art. has: 4 figures, 9 formulas, and 3 tables.

SUB CODE: 20/ SUBM DATE: 01Jul64/ ORIG REF: 006/

Card 2/2 LC

L 2637-66 EWT(1)/FCC/EWA(h) GW
ACCESSION NR: AP5025489 UR/0203/65/005/005/0952/0955
550.388

AUTHOR: Vasil'yev, K. N.; Agafonnikov, Yu. M.

TITLE: A positive system for recording ionospheric characteristics using an AIS ionospheric sounder

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 5, 1965, 952-955

TOPIC TAGS: ionospheric sounder, ionogram, ionospheric physics

ABSTRACT: The recording system in the AIS ionospheric sounder was altered from negative to positive (brightness modulation) with a corresponding change in the receiver output for continuous recording. This type of recording gives frequency markers and altitude-frequency characteristics in the form of a light trace against a dark background. In the modified system there is practically no attenuation in the output signal after video amplification since rather large values of resistance (18 to 20 kohm) are used as cathode loads in the cathode followers. Calculations and measurements on this system have shown the transmission factor of the cathode followers to be ~95. In addition to this, the positive system shows an improvement in the visual

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ACCESSION NR: AP5025489

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perception of ionograms during processing, i. e. analysis of ionograms is somewhat facilitated and the number of subjective errors is reduced. A schematic diagram of the AIS system is given. Tests of the proposed positive recording system showed that high quality ionograms can be taken even when low-efficiency antennas are used. The authors give an outline of the changes made in the receiver and frequency marker transmitter. An ionogram taken with the modified instrument is shown. "In conclusion, the authors are grateful to N. V. Mednikova and Yu. V. Kushnerevskiy for valuable remarks, and also to R. D. Petrova and V. N. Strel'chuk for formulating this work." Orig. art. has: 2 figures. [14]

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, the Ionosphere, and Radio Wave Propagation, AN SSSR)

SUBMITTED: 27Oct64 ENCL: 00 SUB CODE: ES

NO REF SOV: 002 OTHER: 001 ATD PRESS: 4124

Card 2/2

AGAFONOV, A., kinomekhanik (Minsk).

Replacement of the flexible shaft of the PP-16-1 projector. Kinomekhanik no. 11:34 N '53. (MLRA 6:11)

(Moving-picture projectors)

U.S.S.R. 102,642. May 25, 1956 [illegible] struction and operation of a centri[illegible] and the basis of their [illegible]

RASTIMESHIN, N.I.; AGAFONOV, A.A.; LAMASOV, A.A.

Semiautomatic core-blowing and sandslinging "ZIL" machine for coremaking. Lit. proizv. no.10:26-28 O '60. (MIRA 13:10)
(Coremaking--Equipment and supplies)

AGAFONOV, A.A.

Digging trenches to cross the Dnieper-Bug Canal. Stroi. truboprov. 6 no.6:20 Je '61. (MIRA 14:7)
(Dnieper-Bug Canal) (Gas, Natural—Pipelines)

AGAFONOV, A.A.; STAVITSKIY, I.M.

Modernization of the vertical drilling machine. Mashinostroenie no.1:97-100 Ja-F '62. (MIRA 15:2)
(Drilling and boring machinery--Technological innovations)

AGAFONOV, A.A.; STAVITSKIY, I.M.

Pneumatic draw-in chuck for lathes with automatic withdrawing of machined parts. Mashinostroenie no.1:99-100 Ja-F '62. (MIRA 15:2)

(Chucks)

AGAFONOV, A.A.

Nonparasitic pancreatic cysts. Khirurgiia 33 no.11:105-106 N '57.
(MIRA 11:2)

1. Iz 2-y khirurgicheskoy kliniki Kazanskogo gosudarstvennogo instituta usovershenstvovaniya vrachey (zav. - prof. P.V.Kravchenko)
(PANCREAS, cysts
surg. (Rus))

AGAFONOV, A.A.

Case of hemorrhage into the peritoneal cavity because of implantation of the fertilized egg in the greater omentum. Kaz.med.zhur. 40 no.3:68-69 My-Je '59. (MIRA 12:11)

1. Iz kafedry khirurgii i neotlozhnoy khirurgii (zav. - prof.P.V. Kravchenko) Kazanskogo Gosudarstvennogo instituta dlya spetsializatsii i usovershenstvovaniya vrachey imeni V.I.Lenina.
(OMENTUM)
(PREGNANCY, EXTRAUTERINE)

AGAFONOV, A.A.

Total gastrectomy at the height of hemorrhage in cancer. Kaz.med.zhur. 40 no.4:77-79 Jl-Ag '59. (MIRA 13:20)

1. Iz 2-y kafedry khirurgii (zaveduyushchiy - prof. P.V. Kravchenko) Kazanskogo Gosudrastvennogo instituta dlya spetsializatsii i usovershenstvovaniya vrachey imeni V.I. Lenina (GIDUV).
(STOMACH--SURGERY) (CANCER)

AGAFONOV, A.A.; KNIRIK, A.S. (Kazan')

Favorable outcome in a case of hemolytic shock caused by Rh incompatibility. Kaz. med. zhur. no.6:87 N-D '60. (MIRA 13:12)
(SHOCK) (RH FACTOR)

LIKHTENSHTEYN, A.O., kand.med.nauk; AGAFONOV, A.A.

Hashimoto type thyroiditis. Kaz.med.zhur. no.5:55-56 S-O '62.
(MIRA 16:4)

1. Klinika khirurgii i neotlozhnoy khirurgii (zav. - prof. P.V.Kravchenko) Kazanskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey imeni V.I.Lenina.
(THYROID GLAND--DISEASES)

AGAFONOV, A.A.

Acute hematogenic osteomyelitis with total sequestration of the left innominate bone in a child. Kaz.med.zhur. no.3:58-59 My-Je '62. (MIRA 15:9)

1. Kafedra khirurgii i neotlozhnoy khirurgii (zav. - prof. P.V. Kravchenko) Kazanskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey imeni Lenina.
(OSTEOMYELITIS)

AGAFONOV, A.A.

Indications of emergency splenectomy. Kaz.med.zhur. no.3: 35-36 My-Je '63. (MIRA 16:9)

1. Kafedra khirurgii i neotlozhnoy khirurgii (zav. - prof. P.V.Kravchenko) Kazanskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey imeni Lenina.
(SPLEEN—SURGERY)

MYNKIN, P.V.; MINASHIN, V.V.; AGAFONOV, A.A.

Automatic line of three machine tools for machining ferodo brake disks. Avt.prom. 30 no.1:31-32 Ja '64. (MIRA 17:3)

1. Moskovskiy avtozavod imeni Likhacheva.

MYNKIN, P.V.; AGAFONOV, A.A.; MINASHIN, V.V.

Introducing automatic line based on modernized machine tools. Biul. tekh.-ekon.inform.Gos.nauch.-issl.inst. nauch.i tekh.inform. 18 no.6:39 Je '65. (MIRA 18:7)

86079

18.7500 1416,1555

S/180/60/000/005/030/033
E193/E183

AUTHORS: Agafonov, A.G., Golomolzina, Yu.A., Rogel'berg, I.L., and Shpichinetskiy, Ye.S., (Moscow)

TITLE: Crystallization of Graphite on the Surface of Technical Purity Nickel

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, No.5, pp. 223-224

TEXT: The object of the investigation described in the present paper was to determine the causes of the formation of black spots on annealed nickel sheet. To this end, specimens of nickel sheet, containing 0.03-0.10% C, and small quantities of Si, Mg and Mn, subjected to vacuum annealing for 3 hours at 800 °C, followed by cooling at the rates of 2-3, 10-15 and 150-200 °C/min, were studied. The results of electron diffraction analysis showed that the black surface film (estimated to be 10^{-6}-10^{-5} cm thick), formed under these conditions, is pure graphite. Microscopic examination confirmed this finding and revealed that graphite is first precipitated at the grain boundaries and then spreads over the surface. In analogy to the hyper-eutectoid steels, presence

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E193/E183

Crystallization of Graphite on the Surface of Technical Purity Nickel

of silicon in nickel intensified the crystallization of graphite. The rate of cooling after annealing had a marked effect on the phenomenon studied. At the cooling rate of 2-3 °C/min, the formation of surface graphite film took place when the carbon content in nickel was $\geqslant$ 0.04%. When the cooling rate was increased to 10-15 °C/min, the minimum carbon content leading to the formation of the surface graphite film was found to be 0.06%. No graphite film was formed on the surface of specimens that, after annealing, had been cooled at the rate of 150-200 °C/min. Crystallization of graphite on nickel surface can take place also when annealing is carried out in a reducing atmosphere. In this case, graphite is crystallized also from the gaseous phase. It has been shown experimentally that in the absence of carbon in nickel, no formation of the surface graphite film takes place during annealing in a reducing atmosphere. This indicates that when such film is formed under these conditions on nickel

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E193/E183

Crystallization of Graphite on the Surface of Technical Purity Nickel

containing $\geqslant$ 0.04% C, graphite particles precipitated from the metal act as crystallization nuclei for carbon which condenses from the gaseous phase during cooling.

There are 1 plate (opposite page 222) and 8 references: 4 Soviet and 4 non-Soviet.

SUBMITTED: May 26, 1960

Card 3/3

AGAFONOV, A.G.(Moskva); GOLOMOLZINA, Yu.A.(Moskva); ROGEL'BERG, I.L.(Moskva); SHPICHINETSKIY, Ye.S. (Moskva).

Crystallization of graphite on the surface of commercially pure nickel. Izv. AN SSSR. Otd. tekh. nauk. Met.i topl. no.5:223-224 S-O '60. (MIRA 13:11)
(Nickel--Metallography)

CHAPLINSKIY, M.B.; SVERDLOV, A.K.; SHLYGINA, K.N.; BELYAYEV, P.A.; DEMCHUK, T.Ya.; VINOGRADOVA, P.A.; TSVIRKO, A.B.; VAGIN, Ye.A.; AGAFONOV, A.I.

Outbreak of an anginous form of erysipeloid. Zhur. mikrobiol., epid. i immun. 41 no.12:119 D '64. (MIRA 18:3)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

AGAFONOV, ALEKSANDR' KONSTANTINOVICH

Epp
.R91.56

Uchastkovyy I brigadnyy khozraschet; iz opyta raboty kiyevskogo vagonoremontnogo zavoda (Districts and brigades which are not financed by the state) Moskva, Transzheldorizdat, 1955.
34 p. tables.

AGAFONOV, Aleksandr Konstantinovich; GORELIK, L.E., doktor ekonom. nauk, prof., red.; BARANOVA, N.P., red. izd-va; DAKHNO, Yu.B., tekhn. red.

[Problems of intraplant business accounting in machinery manufacturing] Voprosy vnutrizavodskogo khozraschета v mashinostroenii. Kiev, Izd-vo AN Ukr.SSR, 1963. 97 p. (MIRA 16:7)

(Machinery industry--Accounting)

ROGEL'BERG, I.L.; SHPICHINETSKIY, Ye.S.; AGAFONOV, A.K.; PUCHKOV, B.P.

Some properties of oxygen and sulfur-bearing nickel for anodes.
Trudy Giprotsvetmetobrabotka no.18:243-253 '60. (MIRA 13:10)
(Nickel--Metallography) (Electrodes, Nickel)

SHPICHINETSKIY, Ye.S.; ROGEL'BERG, I.L.; LUZENBERG, A.A.; GOLOMOLZINA, Yu.A. AGAFONOV, A.K.; Prinimali uchastiye: MIZONOV, V.M.; GALAKTIONOVA, G.A.; GAVRILOVA, N.G.; SAMSONOV, I.P.; KOPEYKA, E.I.; GLEBOV, V.P.

Investigating th darkening of nickel strips during annealing. Trudy Giprotsvetmetobrabotka no.20:125-135 '61. (MIRA 15:2)
(Nickel--Heat treatment) (Annealing of metals)

L 23846-65 EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/EPR/T/EWP(t)/EWP(b) Pad/Pe-4/Pu-4 IJP(c)
ACCESSION NR: AT4045671 JD/WW/HW/JG S/2680/64/000/022/0039/0061

AUTHOR: Agafonov, A. K.; Aleksakhin, I. A.; Pokrovskaya, G. N.; Puchkov, B. I.; Rogel'berg, I. L.; Tarasova, T. F.; Nuzhnov, A.G. (Deceased)

TITLE: Thermoelectromotive force of binary solid solutions on a Ni-base

SOURCE: Moscow. Gosudarstvenny*y nauchno-issledovatel'skiy i proyektny*y institut splavov i obrabotki tsvetny*kh metallov. Trudy*, no. 22, 1964. Issledovaniye splavov dlya termopar (Studying alloys for thermocouples), 39-61

TOPIC TAGS: thermoelectromotive property, binary solid solution, nickel, aluminum, beryllium, cobalt, chromium, copper, iron, germanium, magnesium, manganese, molybdenum, niobium, rhenium, silicon, tantalum, titanium, vanadium, tungsten, zirconium, oxidation resistance

ABSTRACT: Many alloys used for the production of thermocouples have a Ni base and, therefore, their thermoelectric properties are of considerable interest. Ni alloys with Al, Be, Co, Cr, Cu, Fe, Ge, Mg, Mn, Mo, Nb, Re, Si, Ta, Ti,

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ACCESSION NR: AT4045671

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V[27], W[27] and Zr[27] were tested. Specimens consisted of 300 g ingots having a diameter of 18 mm. An argon induction furnace was used and a magnesite crucible. Ingots with a low content of additives were cold-rolled into 5.3 mm rods and cold-roll specimens with a high content of the second component were subjected to intermediate quenching from 1200C. The rods were annealed for two hours at 1000C and the thermoelectromotive force measured with a temperature range of 0 to 1200C. Most tested elements enhanced the thermoelectromotive force of N and 15 to 17% Mo, 6.5% Co and 19 to 20% W had a conspicuous effect. Elevated temperature accelerated the effect and low temperature slowed it down considerably. The only exceptions were Al, Be and Cu; these elements lowered the thermoelectromotive force. Many systems displayed an extremum in solid solutions with Cr, Co, Al, Si, Co, etc. Orig. art. has: 35 figures and 7 tables.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut obrabotki tsvetnykh metallov, Moscow (State Scientific Research and Planning Institute for the Processing of Nonferrous Metals)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, EM

NR REF SOV: 008 OTHER: 009

Card 2/2

AGAFONOV, A.K., kand. ekon. nauk; KONONENKO, V.I.; VASILENKO, G.K.; KAZAK, V.Ye.; ZABELLA, V.I.; BORYAKIN, V.N., red.

[Price determination in the machinery industry] TSenoobrazovanie v mashinostroenii. Kiev, Naukova dumka, 1965. 259 p. (MIRA 18:11)

1. Akademiia nauk URSR, Kiev. Instytut ekonomiky.

ACC NR: AP6035731 SOURCE CODE: UR/0413/66/000/019/0094/0095

INVENTORS: Aleksakhin, I. A.; Agafonov, A. K.

ORG: none

TITLE: Alloys for the compensation leads of a thermocouple. Class 42, No. 186735 /announced by State Scientific Research and Design Institute of Alloys and of the Processing of Nonferrous Metals (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov)/

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 94-95

TOPIC TAGS: thermocouple, nickel alloy, nonferrous metal alloy, alloy composition

ABSTRACT: This Author Certificate presents alloys for the compensation leads of a thermocouple. The alloys are nickel-based and are designed to provide thermal emf stability for a platinum-rhodium thermocouple when the free ends of the thermocouple have a high and different temperature within the limits of 0--500C. The alloy for the compensation lead connected with the positive electrode of the thermocouple consists of 5.4--6.6% niobium, 0.0--3.0% iron, 0.0--0.5% manganese, 0.0--0.5% titanium, 0.0--0.3% magnesium, 0.0--0.3% silicon, and 0.0--0.2% carbon. The alloy for the second compensation lead connected with the negative electrode of the thermocouple consists of 4.5--5.2% niobium, 0.0--0.5% manganese, 0.0--0.5% titanium, 0.0--0.3% magnesium, 0.0--0.3% silicon, and 0.0--0.2% carbon.

SUB CODE: 11, 14/ SUBM DATE: 04Feb65 UDC: 536.532:669.245

Card 1/1

AGAFONOV, A.V.; rezinko, d.s.; ROZHKOV, A.A.; SEMENOV, N.M.

Ecology of the tawny eagle [with summary in English]. Biul.MOIP. Otd.biol. 62 no.2:33-41 Mr-Ap '57. (MLRA 10:8)
(EAGLES) (BIRDS--FOOD)

AGAFONOV, A.V., inzhener.

Air chute for feeding pulverized coal. Elek.sta.27 no.6:40 Je '56.
(Coal, Pulverized) (MIRA 9:9)

AGAFONOV, A. V.

Use of Brief Information Talks in Medical Enlightenment Work.

VOYENNO-MEDITSINSKIY ZHURNAL (MILITARY MEDICAL JOURNAL) No 12, 1954. p.57

AGAFONOV, A.V., gvardii mayor meditsinskoy sluzhby

Method of evacuating the wounded across water barriers. Voen.-med. zhur. no.3:59-62 Mr '56. (MLRA 9:9)
(RUSSIA--ARMY--TRANSPORTATION OF SICK AND WOUNDED)

SEMENOV, N.M.; AGAFONOV, A.V.; REZINKO, D.S.; ROZHKOV, A.A.

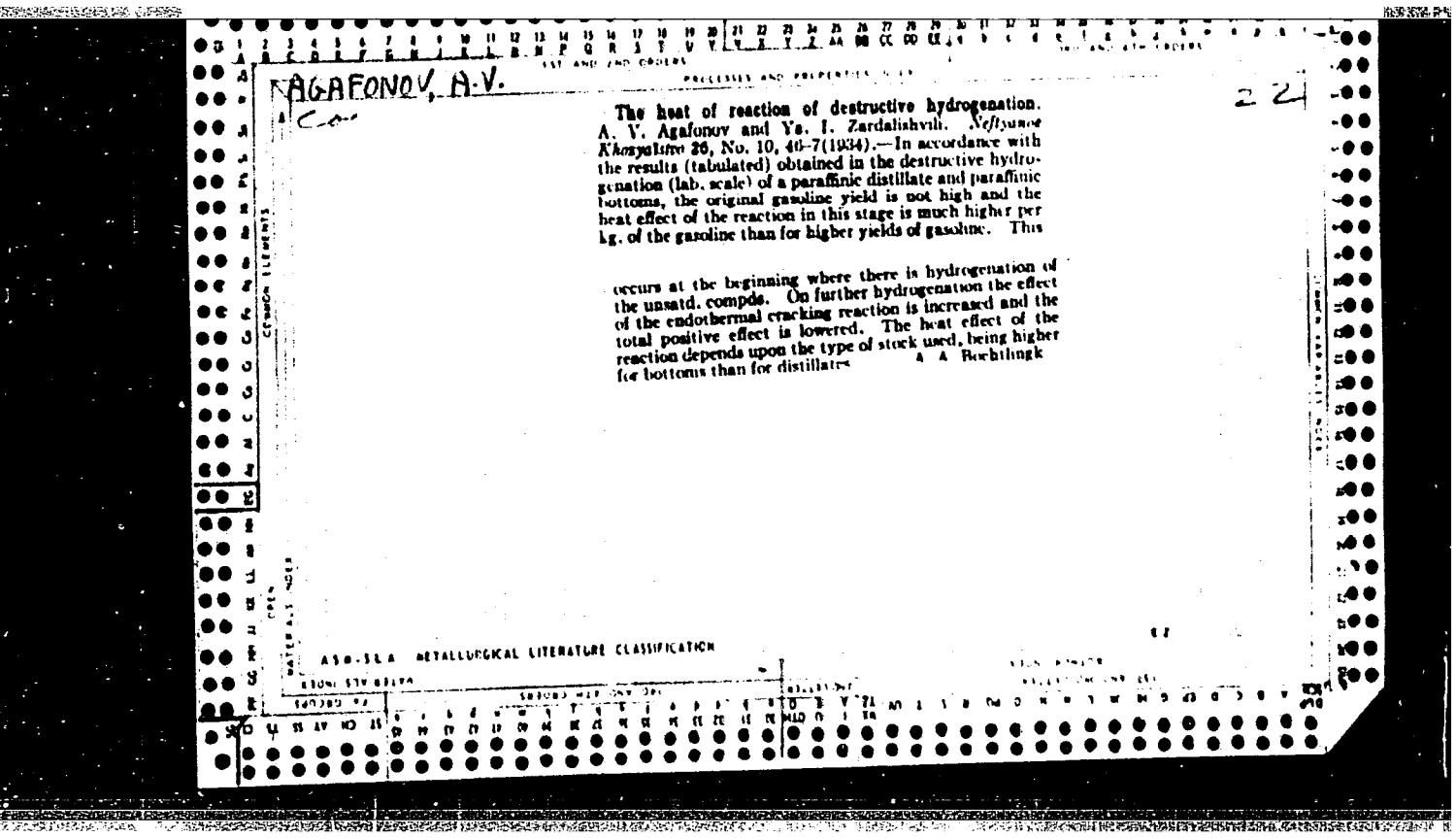
Effect of the severe winter of 1955-1956 on some mammals in steppes of the Sarpa region [with summary in English]. Zool. zhur. 37 no.8:1223-1227 Ag '58. (MIRA 11:9)

1.Gosudarstvennyy nauchno-issledovatel'skiy institut mikrobiologii i epidemiologii Yugo-Vostoka SSSR, Saratov i Stalingradskaya protevochumnaya stantsiya.
(Sarpa region--Zoology--Ecology) (Winter)

ABAYEVA, B.T.; OKINSHEVICH, N.A.; AGAFONOV, A.V.; SIDLYARENOK, F.S.; KAZANSKIY, V.L.; GYUL'MISAR'HAN, T.G.; SUYETENKO, L.P.; GILYAZETDINOV, L.P.

Using extracts as stock for the production of active and semi-active carbon black. Nefteper. i neftekhim. no.5:30-33 '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva, Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

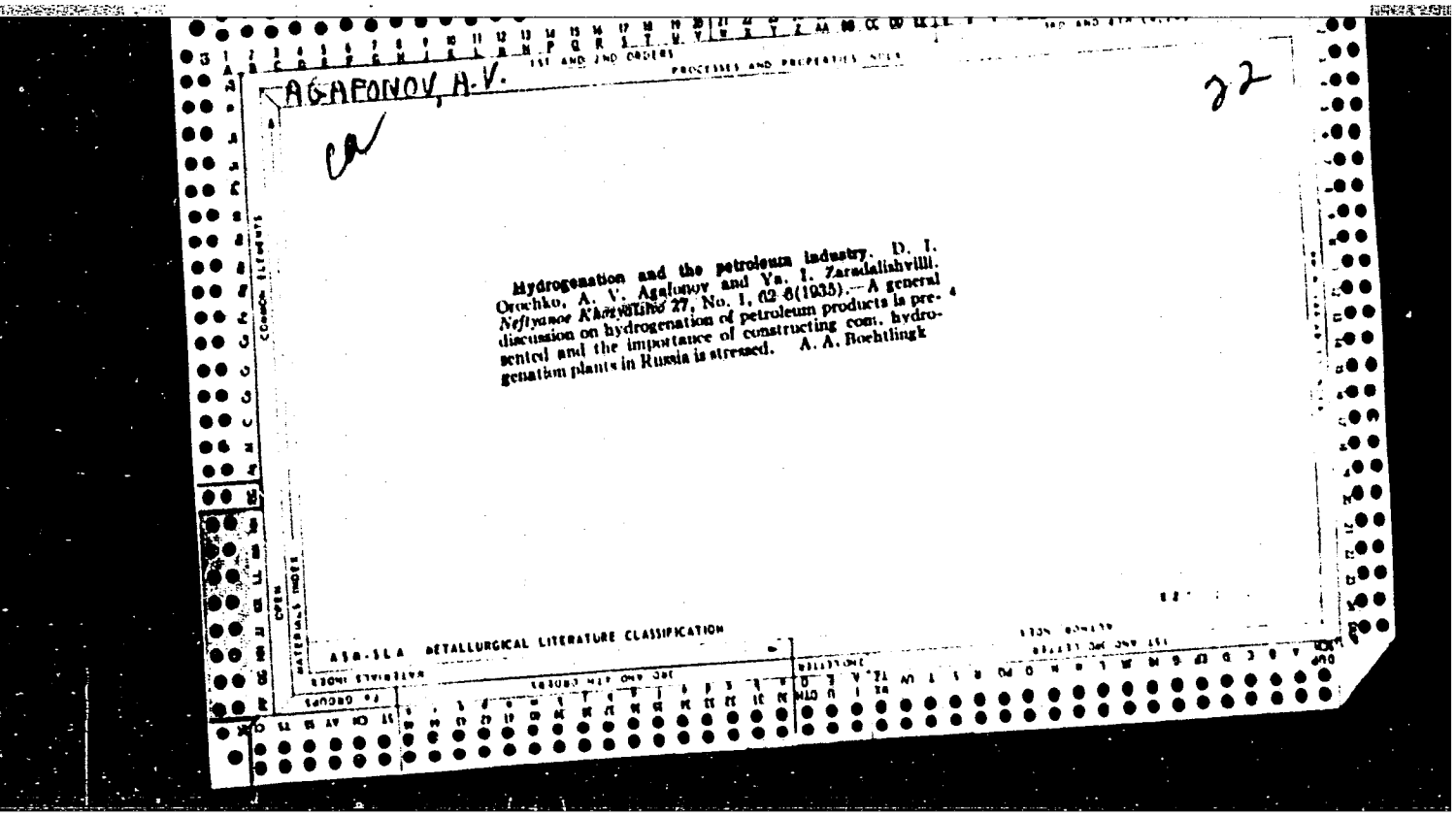


AGAFONOV, A.V.

24

The heat of reaction of destructive hydrogenation. A. V. Agafonov and Ya. I. Zardalishvili. *Neftyanoe Khozyaistvo* 26, No. 10, 40–7(1934).—In accordance with the results (tabulated) obtained in the destructive hydrogenation (lab. scale) of a paraffinic distillate and paraffinic bottoms, the original gasoline yield is not high and the heat effect of the reaction in this stage is much higher per kg. of the gasoline than for higher yields of gasoline. This occurs at the beginning where there is hydrogenation of the unsatd. compds. On further hydrogenation the effect of the endothermal cracking reaction is increased and the total positive effect is lowered. The heat effect of the reaction depends upon the type of stock used, being higher for bottoms than for distillates A A Berlilingk

A50-51A METALLURGICAL LITERATURE CLASSIFICATION



AGAFONOV, A.V.

22

Hydrogenation and the petroleum industry. D. I. Orochko, A. V. Agafonov and Ya. I. Zaradalishvilli. *Neftyanoe Khozyaistvo* 27, No. 1, 62-6(1935).—A general discussion on hydrogenation of petroleum products is presented and the importance of constructing com. hydrogenation plants in Russia is stressed. A. A. Boehtlingk

A58-5LA METALLURGICAL LITERATURE CLASSIFICATION

AGAFONOV, A.V.

Gasolines from the Bugurusian crude oil. A. V. Agafonov and E. R. Rabinovich. *Vostochnaya Neft* 1939, No. 2, 27-9. From the Bugurusian crude oil may be produced 7% aviation gasoline with 80% over below 100°, a Reid vapor pressure of 210 mm. and a S content of 0.001%, octane no. 65 without PbEt₄ and 80 with 3 cc. PbEt₄ per l., 40% of a gasoline boiling below 100° and 11.5% gasoline with an end point of 145°, contg. 0.007% S, octane no. 60 without and 87 with 3% of PbEt₄. Results are tabulated. A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AGAFONOV, A.V.

CA

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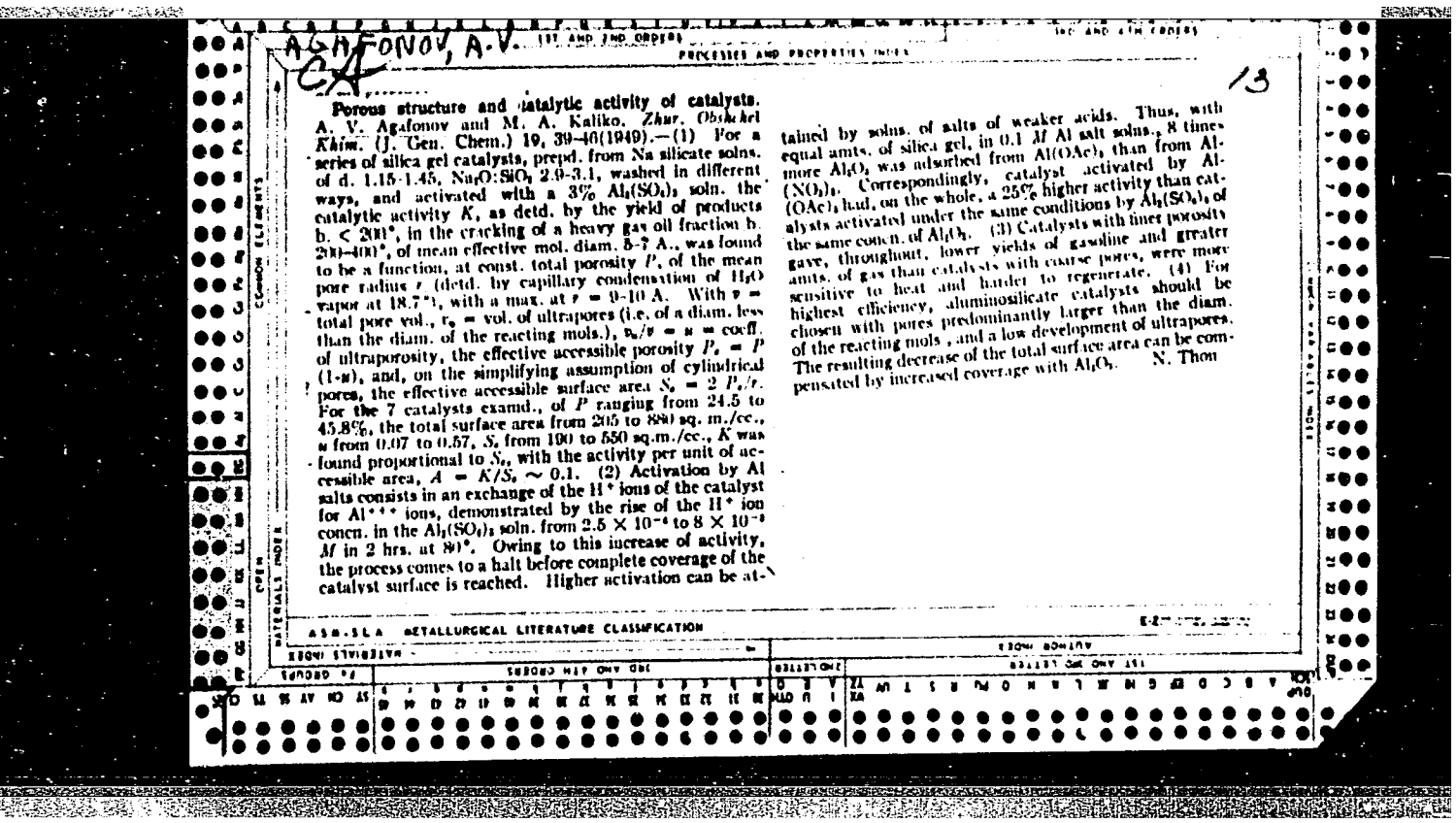
The dependence of the antiknock properties of hydrogenated gasolines on the composition. A. V. Agafonov and S. K. Makarov. *Neftyanoe Khoz.* 1939, No. 8, 30-4.—The consumption of iso-octane is considerably lowered in the prepn. of antiknock fuel, with a 100-octane no. when using the light fraction obtained in the hydrogenation of pressure distillate b. above 60°. A 100-octane-no. aviation fuel is obtained by mixing 15% of the light hydrogenated fraction with 30% of iso-octane and 55% aviation gasoline. The 100-octane-no. fuel can also be prepd. from straight-run aviation gasoline as well as from hydrogenated reformed cracked naphthas. The 100-octane-no. aviation gasoline obtained is in agreement with the standards for such a fuel in its fractional compn. and vapor tension. The 100-octane fuel can also be prepd. from light gasoline, gasoline and the alkylbenzene fraction boiling at 120-165°. The expts. are described and properties of various fuels are tabulated. A. A. Bochtlingk

METALLURGICAL LITERATURE CLASSIFICATION



AGAFONOV, A.V.

CA

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Porous structure and catalytic activity of catalysts. A. V. Agafonov and M. A. Kaliko. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 39–46(1949).—(1) For a series of silica gel catalysts, prepd. from Na silicate solns. of d. 1.15-1.45, $Na_2O:SiO_2$ 2.9-3.1, washed in different ways, and activated with a 3% $Al_2(SO_4)_3$ soln. the catalytic activity K, as detd. by the yield of products b. < 200°, in the cracking of a heavy gas oil fraction b. 280–400°, of mean effective mol. diam. 5-7 A., was found to be a function, at const. total porosity P, of the mean pore radius r (detd. by capillary condensation of H_2O vapor at 18.7°), with a max. at r = 9-10 A. With v = total pore vol., v_0 = vol. of ultrapores (i.e. of a diam. less than the diam. of the reacting mols.), $v_0/v = u$ = coeff. of ultraporosity, the effective accessible porosity $P_e = P(1-u)$, and, on the simplifying assumption of cylindrical pores, the effective accessible surface area $S_e = 2P_e/r$. For the 7 catalysts examd., of P ranging from 24.5 to 45.8%, the total surface area from 205 to 880 sq. m./cc., u from 0.07 to 0.57, S_e from 190 to 550 sq.m./cc., K was found proportional to S_e, with the activity per unit of accessible area, $A = K/S_e \sim 0.1$. (2) Activation by Al salts consists in an exchange of the H^+ ions of the catalyst for Al^{+++} ions, demonstrated by the rise of the H^+ ion concn. in the $Al_2(SO_4)_3$ soln. from 2.5×10^{-4} to 8×10^{-4} M in 2 hrs. at 80°. Owing to this increase of activity, the process comes to a halt before complete coverage of the catalyst surface is reached. Higher activation can be attained by solns. of salts of weaker acids. Thus, with equal amts. of silica gel, in 0.1 M Al salt solns., 8 times more Al_2O_3 was adsorbed from $Al(OAc)_3$ than from $Al(NO_3)_3$. Correspondingly, catalyst activated by $Al(OAc)_3$ had, on the whole, a 25% higher activity than catalysts activated under the same conditions by $Al_2(SO_4)_3$ of the same concn. of Al_2O_3. (3) Catalysts with finer porosity gave, throughout, lower yields of gasoline and greater amts. of gas than catalysts with coarse pores, were more sensitive to heat and harder to regenerate. (4) For highest efficiency, aluminosilicate catalysts should be chosen with pores predominantly larger than the diam. of the reacting mols., and a low development of ultrapores. The resulting decrease of the total surface area can be compensated by increased coverage with Al_2O_3. N. Thon

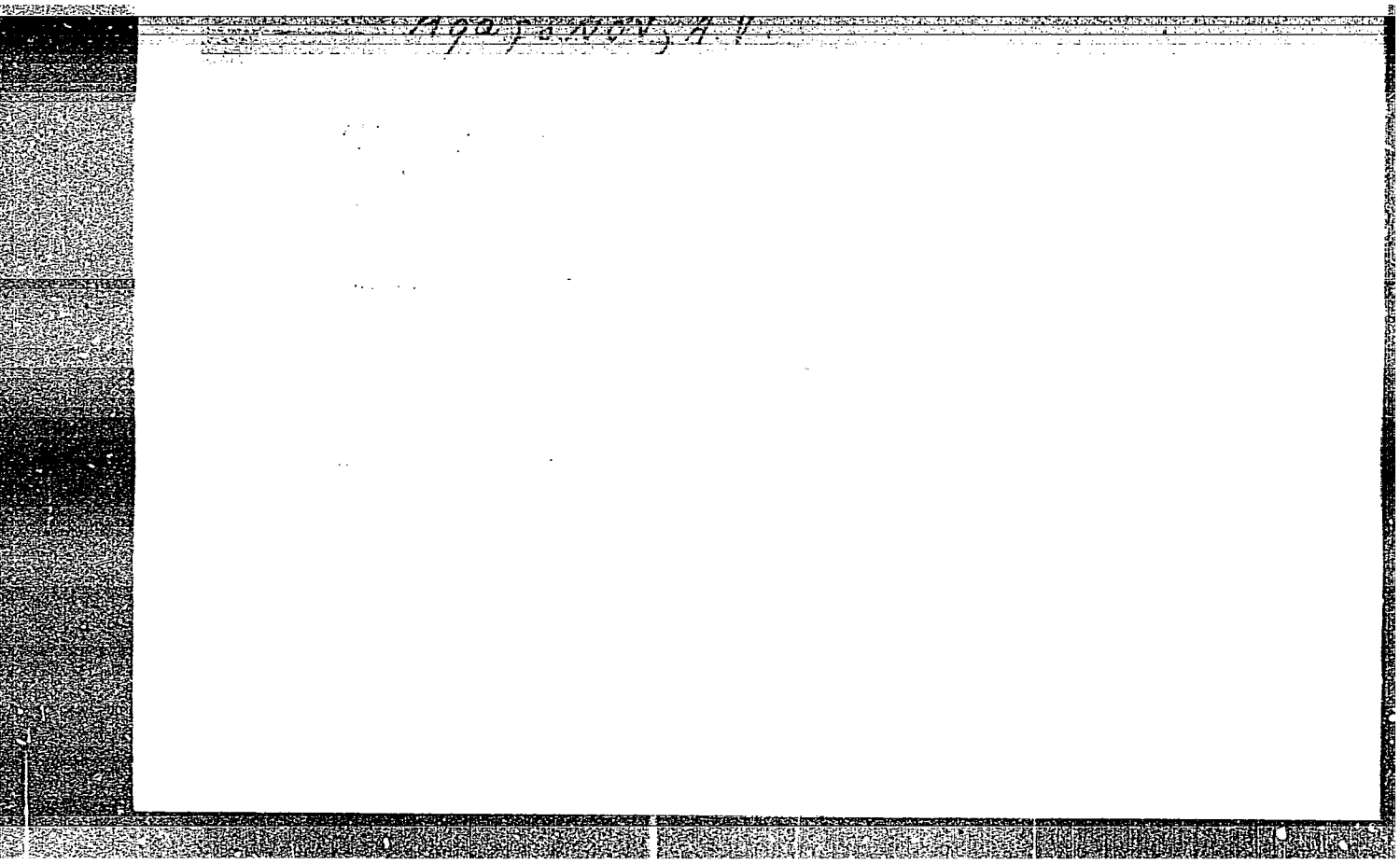
AGAFONOV, A.V.; SUKHANOV, V.P.; RABINOVICH, E.I; YUDINSON, R.N.

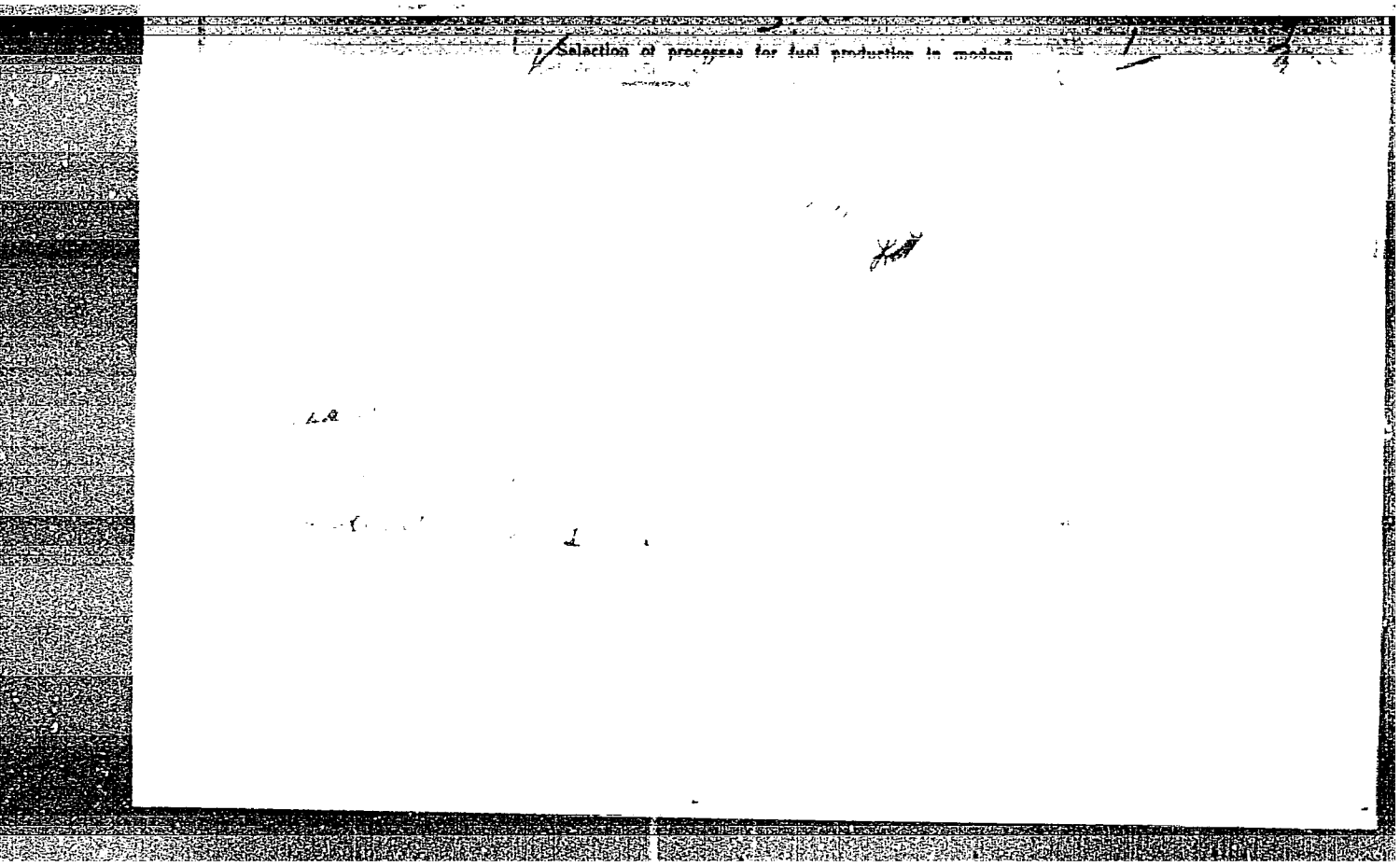
[Cracking of high-boiling point fractions of sulfurous oils using aluminosilicates as catalysts] Razlozhenie vysokokipiashchikh fraktsii sernistykh neftei v prisutstvii aliumosilikatnykh katalizatorov; doklady na IV Mezhdunarodnom neftianom kongresse v Rime. Moskva, Izd-vo Akademii nauk SSSR, 1955.46 p
(Catalysts) (Cracking process) (MLRA8:10)

Sukhanov, R. I. Rabinovich, and R. N. Yudinson. *Repts. 4th World Petroleum Congr.* Rome 1955. [illegible]

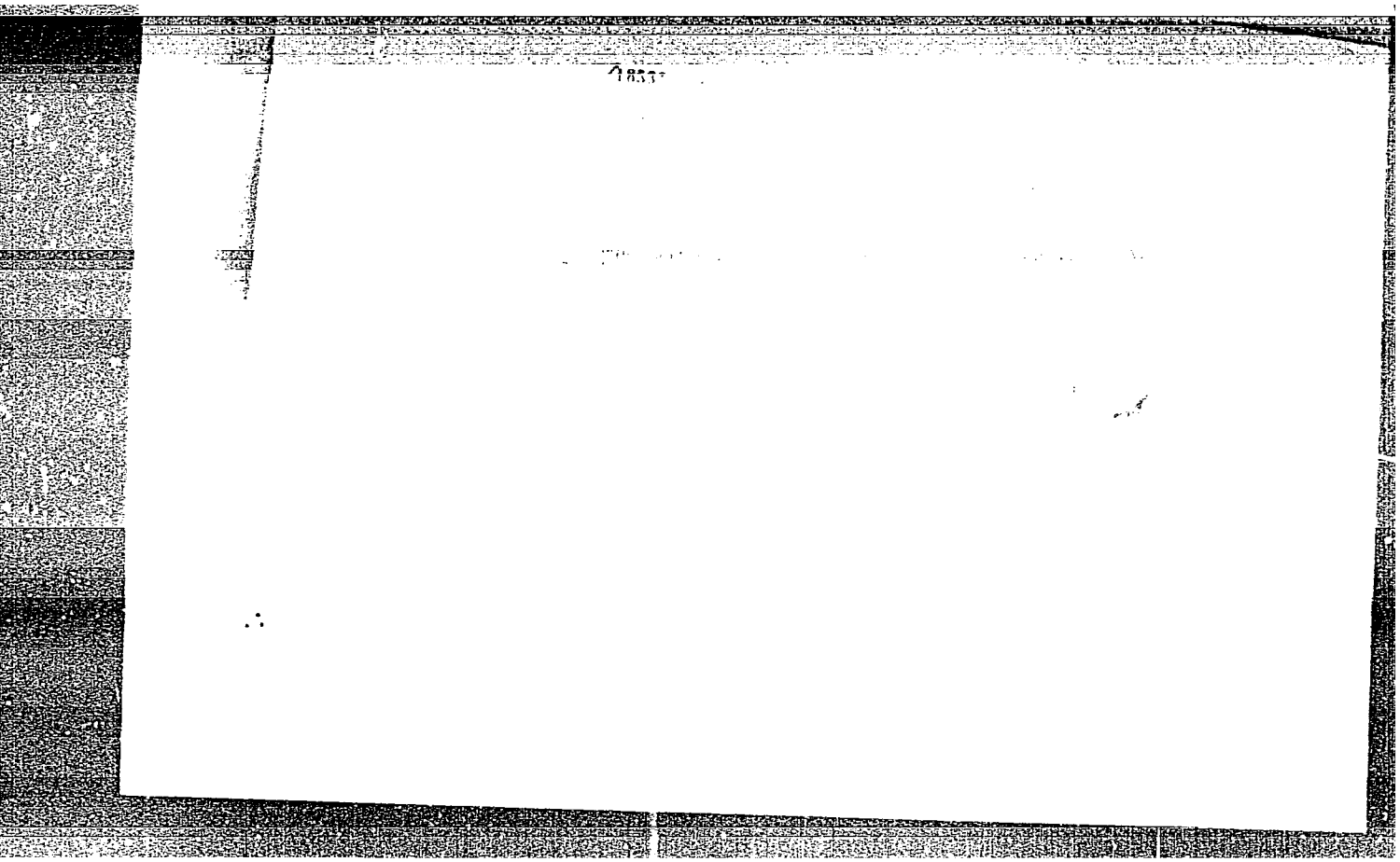
utilization and further processing; high recycle rates are necessary which lower the capacity of coking plants. Residual fractions which contain high [illegible]

the presence of low-mol. liquid hydrocarbons facilitates evapn. and desorption of cracked products from the catalyst surface and increases the effective surface [illegible]





(Gas Ind., Moscow), 1956, (7) [illegible] In Chem. Abstr., [illegible] 17384). Analysis of the ligroine fraction obtained from the Tuimazy gas works [illegible] the following percentage composition: butane [illegible]; isopentane 26.[illegible] [illegible]



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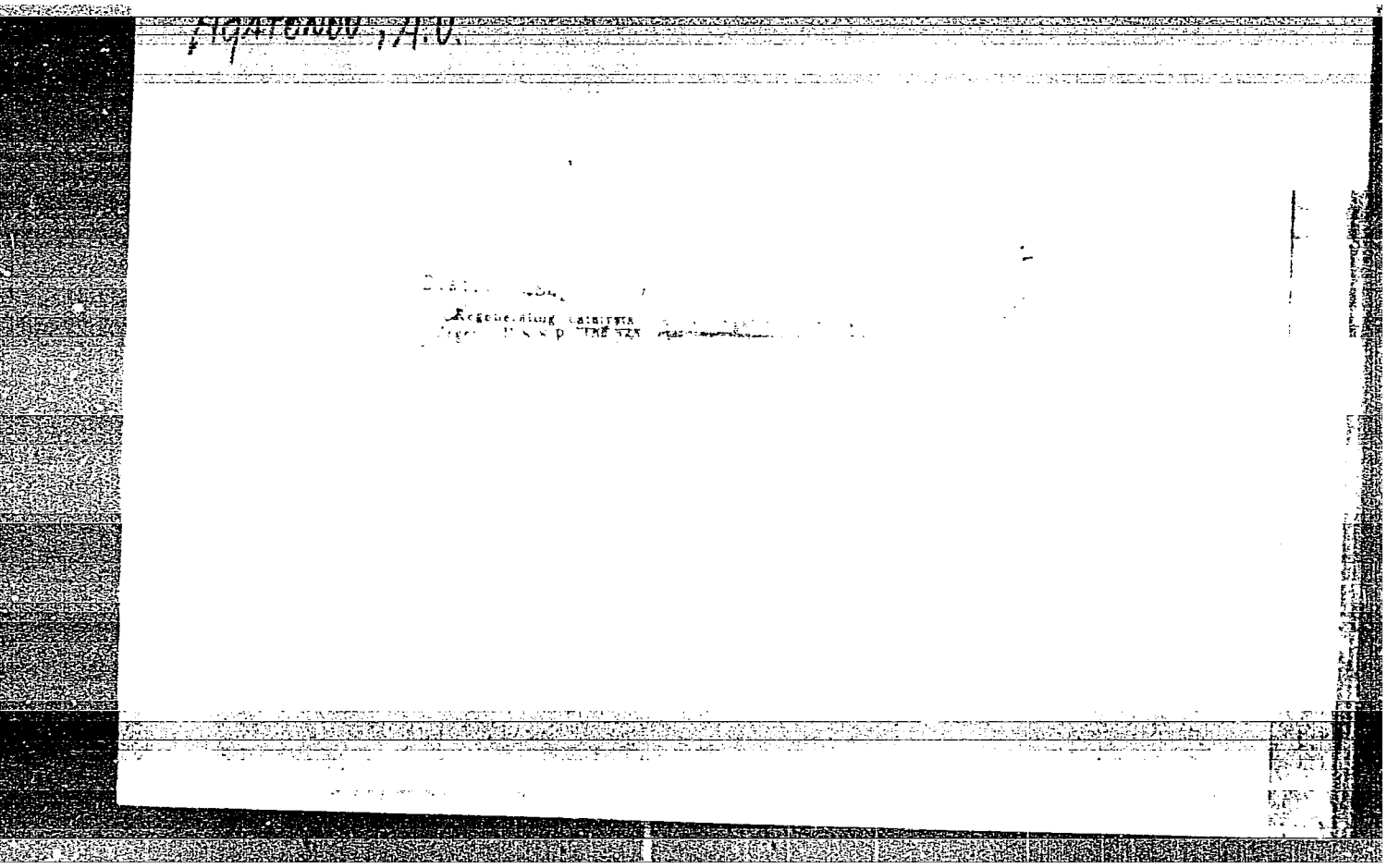

AUTHORS: Agafonov, A.V., Abayeva, B.T. and Okinshevich, N.A. (V.N.I.I. NP)

TITLE: Cracking of high molecular hydrocarbons from the Romashkinsk crude oil using a natural alumino-silicate catalyst. (Kreking vysokomolekularnykh uglevodorodov romashkinskoy nefti na prirodnom alyumdsilikatnom katalizatore).

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Masel" (Chemistry and Technology of Fuels and Lubricants), 1957, No.2, pp. 33 - 40. (U.S.S.R.)

ABSTRACT: A laboratory investigation of transformations of heavy fractions (as obtained and freed from asphalt) from the above crude oil during cracking over kaolinite clay as a catalyst at 400°C was carried out. The apparatus and procedure used were previously described (ref.2). Properties of starting materials are given in Table 1. Starting materials were diluted with n.heptane (3:1) the transformation of which under experimental conditions was insignificant (2.4 wt %) and was neglected in calculations of the results obtained. Material balance of the process is given in Table 2, total transformation obtained was 85.6 and 86.5 wt % and the yield of liquid product boiling up to 450° was 62.0% and 69.7% for as obtained and free from asphalt fractions respectively. Characteristics of cracking fraction boiling below 200°, 200-350°, 350-400° and above 450°

SULIMOV, A.D.; AGAFONOV, A.V.; OROCHKO, D.I.

Determining the aromatizing activity of reforming catalysts.
Khim.i tekh.topl.i masel no.5:14-19 My '57. (MIRA 10:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti.
(Catalysts) (Hydrocarbons)

Agafonov, A.V.

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Conversion of shale [illegible]
Levchenko, A. V. Agafonov, V. N. Puzhinov, and O. L. Maslova. Khim. i Tekhnol. Topliva i Masel 1957, No. 8, 66-71.—Catalytic cracking of the 340-420° fraction of a tar contg. 20% paraffins, 2.7% phenol and [illegible] impractical because [illegible] by the O and N compds. [illegible]
[illegible]

USSR

AGAFONOV, A. V.

65-2-8/12

AUTHORS: Agafonov, A.V; Abayeva, B.T; and Okinshevich, N.A.

TITLE: The Cracking of Individual Groups of Hydrocarbons of Romashkinsk Goudron in the Presence of Natural Aluminosilicate Catalysts. (Kreking otdel'nykh grupp uglevodorodov Romashkinskogo gudrona v prisutstvii prirodnykh alyumosilikatnykh katalizatorov).

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel,1958, Nr.2. pp. 46 - 53). USSR.

ABSTRACT: A previously published article (Ref.1) gave the results of the catalytic cracking of starting and deasphalted goudron residues from Romashkinsk crude petroleum oil in the presence of aluminosilicate catalysts. Further investigations were carried out when subjecting individual hydrocarbon groups and compounds, present in the composition of deasphalted goudron residues, to catalytic cracking processes. The method of investigation was similar to that described in the previous article. Table 1 gives the composition of the raw material. The deasphalted goudron was separated into the individual chemical compounds by adsorption on silica gel. The raw material was subjected to cracking in the presence of a natural aluminosilicate catalyst

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The Cracking of Individual Groups of Hydrocarbons of Romashkinsk Goudron in the Presence of Natural Aluminosilicate Catalysts.

decomposition of high-molecular compounds are the splitting off of the side chains, the rupture of the aliphatic chains, the rupture of the sulphur - and possibly other links, which is followed by a decomposition of the formed middle fractions. The dehydrogenation of the naphthenic ring is clearly shown, but is of no great importance. As a result of this reaction, middle and heavy aromatic hydrocarbons are formed which possibly partly undergo condensation reaction with a formation of ashphaltenes and coke. During the cracking of the paraffinic and light aromatic hydrocarbons the hydrogen atom is transferred. When highly aromatic or tar raw material is used the surface of the catalyst is blocked, and a very weak reaction is observed. Results of investigations show clearly that it is advantageous to use selective catalytic processes for the treatment of high molecular crude petroleum raw material. The processing of the residual fractions on natural catalysts should give high yields of kerosene gas oil fractions. There are 7 Tables and 1 Russian Reference.

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ASSOCIATION:VNII NP.

AVAILABLE: Library of Congress.

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Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 15, p 423 (USSR)

AUTHORS: Agafonov, A.V., Abayeva, B.T., Okinshevich, N.A.

TITLE: The Catalytic Cracking of High-Molecular Petroleum Raw Material on Natural Catalysts as a Possible Source of Raw Material for the Production of Oils

PERIODICAL: Tr. Vses. n.-i. in-ta po pererabotke nefti i gaza i polucheniyu iskusstv. zhidk. topliva, 1958, Nr 7, pp 181 - 202

ABSTRACT: The results of research work on the problem of rational processing of the high-molecular part of petroleum to engine fuel and lubrication oils are laid down. Ample material on the analysis and the material balance of products of cracking of petroleum, mazut and asphalt petroleum on natural Al-Si catalysts is presented. The experiments were conducted at 450°C, the volume rate of the raw material of 1.0 per hour, a frequency of the circulation of the catalyst 5:1. The fractions boiling at up to 200, 200 - 350, 350 - 450°C and the residue were subjected to detailed analysis. It has been established that under these conditions the asphaltenes and resinous substances as well as medium and light aromatic

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SOV/81-59-15-54832

The Catalytic Cracking of High-Molecular Petroleum Raw Material on Natural Catalysts as a Possible Source of Raw Material for the Production of Oils

compounds, naphthene and paraffin compounds are transformed by 85 - 90%. The principal direction of the decomposition is the rupture of the side chains, the decomposition of the isoparaffin and paraffin hydrocarbons, the rupture of the naphthene rings and the dehydrogenation of bi- and polycyclic hydroaromatic hydrocarbons. The fractions 350 - 450°C contain up to 35% naphthene, isoparaffin and light aromatic hydrocarbons suitable for the production of commercial oils. The process is strongly affected by the presence of low-boiling components in the initial raw material. In the cracking of petroleum the components boiling > 450°C are transformed in the most intensive manner; the fractions boiling < 350°C are little affected.

S. Rozenfel'd

Card 2/2

SOV/81-59-16-58506

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, pp 410-411 (USSR)

AUTHORS: Agafonov, A.V., Yudina, V.L., Alfimova, Ye.A., Pazhitnov, V.N.

TITLE: On the Technology of the Production of Oils From Secondary Raw Material

PERIODICAL: Tr. Vses. n.-i. in-t po pererabotke nefti i gaza i polucheniyu iskusstv. zhidk. topliva, 1958, Nr 7, pp 202-221

ABSTRACT: Several variants of obtaining lubrication oils (LO) from the fraction (b. p. 330 - 480°C) of catalytic cracking (FCC) of heavy raw material by means of hydrogenation, selective purification, deparaffination, secondary distillation and final contact purification have been studied. In the best variant FCC is hydrogenated at high pressure (300 atm), deparaffinated by carbamide, distilled and purified by contact; in this case LO with a b. p. of 330 - 400°C was obtained (viscosity $\sim$3 centistokes at 100°C and index of viscosity (IV)$\sim$60) and a LO with a b. p. of 400 - 480°C (viscosity $\sim$5 centistokes at 100°C and IV $\sim$100), the total yield of LO being 59 - 62%; the LO were stable (method of VTI) and had iodine numbers $<$ 2. Based on the same variant LO was obtained from FCC with a b. p. of 330 - 480°C which after thickening by 0.7% polyisobutylene (viscosity after thickening 6 centistokes at 100°C, IV $>$ 100) was subjected to a 100-hour test in a

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On the Technology of the Production of Oils From Secondary Raw Material

GAZ-51 engine. According to the test results it did not differ from the commercial Baku SU oil. According to the calculation the prime cost of LO from FCC is lower than that of directly distilled LO with selective purification. At catalytic cracking of residual raw material the LO yields are higher than those of directly distilled LO and in the cracking gases enough H_2 is formed for the hydrogenation of FCC. The developed technology for obtaining LO from FCC is applicable also to the preparation of LO from direct-flow distillates.

A. Ravikovich.